

Recommended State Water Strategy



Governor's Request, Part I

- Year 1: Town Hall Meetings
 - Gang of 6 (Tage Flint, Warren Peterson, Tim Hawkes, Voneene Jorgensen, Bob Morgan, Dennis Strong) + Alan Matheson
 - Town hall meetings around the State (Layton, Richfield, Salt Lake, Provo, Logan, Vernal, Price)
 - 800 online comments received
 - Summarized in white papers (appendix to the Water Strategy)



Governor's Request, Part II

- Year 2: Water Strategy Advisory Committee
 - Objective: Develop 50-year water plan
 - Solicited and evaluated potential water management strategies
 - Provided frame for public feedback
 - Developed set of strategies and ideas from broad input
- Your Utah, Your Future Survey



Assumptions

- Utah's population will double by approximately 2060.
- Existing water infrastructure wearing out.
- Water is a finite and variable resource that is affected by climate.
- Utah values agriculture.
- Utah values a vibrant economy.
- Water quality is important.
- Utahns value water as part of the natural environment.
- Need will drive technology, which will drive change.
- Wise and efficient use of water will be necessary (conservation).
- The cost of water will continue to increase.

Key Policy Questions

How will we supply water to 5 million Utahns?

How will we ensure a reliable water delivery infrastructure?

Issues

Municipal supply development and conveyance

Related large infrastructure

Repair and replacement of existing

Construction of new

Methods

Water efficiency (conservation programs)

Conversion of agricultural supplies

Construction of new water supply projects

Large-scale funding mechanisms

Preservation of existing funding sources

Innovation

Funding mechanisms

Capital asset management plans

Innovation

Funding mechanisms

Innovation

YEAR 4



Recommended State Water Strategy

- Executive Summary
- Background
- 11 Key Policy Questions



(1)

What is the role of
water conservation
& efficiency in
Utah?



Photo Credit: Weber Basin Water Conservancy District



Photo Credit: Jordan Valley Water Conservancy District

Recommendations

- Prioritize water conservation
- Better data: clear standards for measurement and reporting and benchmarks for use
- Identify constraints and consequences (intended and unintended, e.g. Strong's Law)
- Provide adequate funding
- Promote and integrate water conservation planning at all levels
- Quantify the contribution of water conservation to future water supplies

Costs of Conservation

- Public education is expensive and gets progressively more expensive.
- Tech costs money (e.g., secondary meters for D&W = >\$100 million).
- Research costs money (proactive v. reactive).



(2) How will diverted water supplies be developed to meet competing and ever increasing demands?



Recommendations

- Conservation first
- Manage and restore watersheds
- Keep options open to claim Utah's share of interstate rivers
- Develop other regional water supplies
- Increase ASR and capacity of existing reservoirs
- Consider costs & benefits of water development



Photo Credit: The Nature Conservancy

(3) What should we do to preserve natural systems in the face of increasing water demands?



Photo Credit: John P. George; Friends of Great Salt Lake



Photo Credit: The Nature Conservancy

Recommendations

- Improve science and conservation planning and funding
- Expand tools to protect instream flows
- Study opportunities and risk for more efficient water delivery
- Facilitate development of environmental water markets

OWENS LAKE -1913



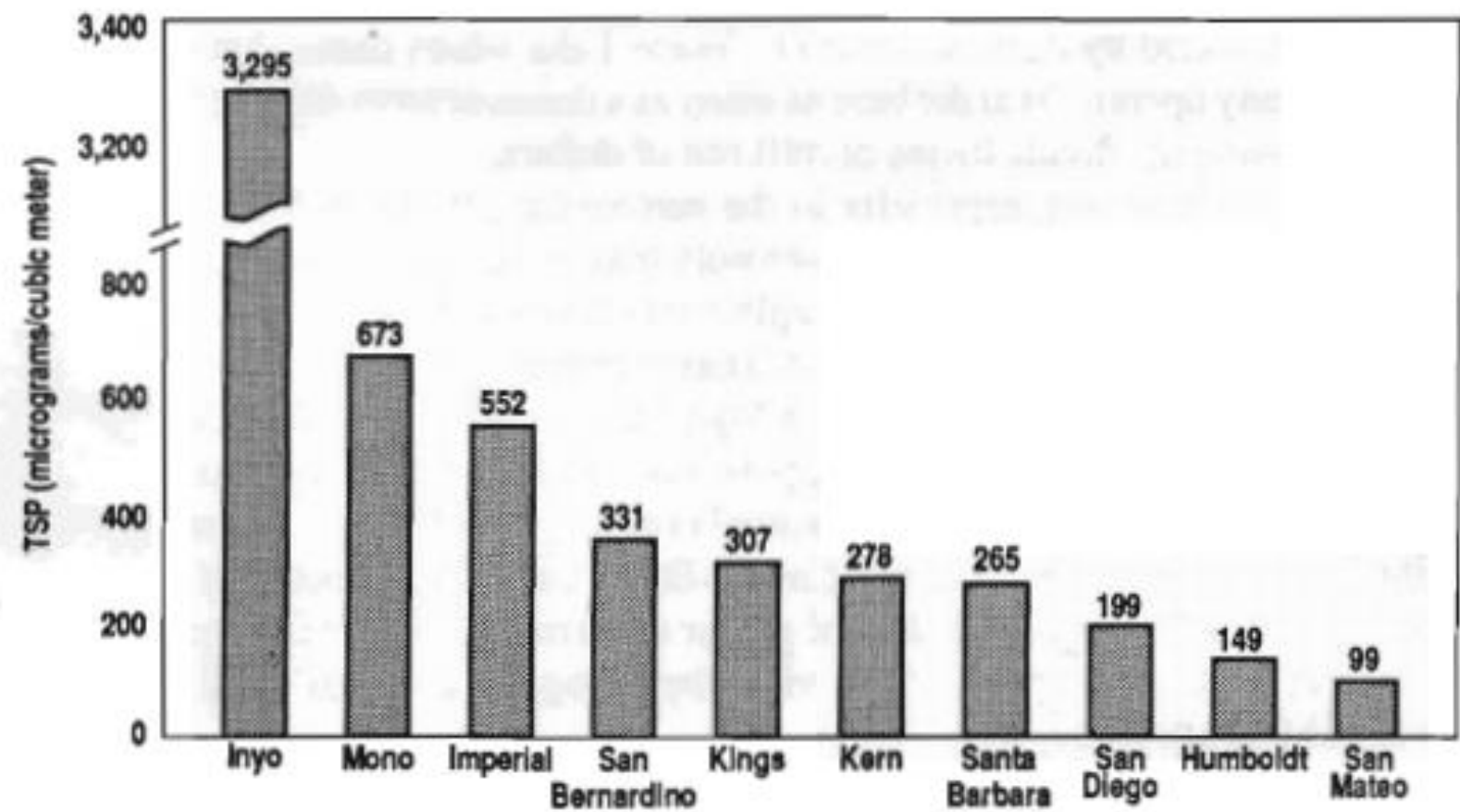
- 12 mi. long x 8 mi. wide (108 sq. miles)
- Average depth of 23-50 feet.

OWENS LAKE - TODAY



Figure 2. Owens Lake
playa environments
[Cochran et al., 1988].

Figure 3. Highest
24-hour total suspended
particulate (TSP) con-
centrations in California
during 1982, by county
[after Kusko and
Cahill, 1984].



MITIGATION COSTS

- \$2.1 billion by June 2018
- Estimated \$75 million/year simply to maintain.
- Roughly 1/3 of a person's water bill in L.A.
- Partial solution (at best)

(4) How do we
protect and sustain
the quality of
Utah's water?



Photo Credit: Weber Basin Water Conservancy District



Photo Credit: Washington County Water Conservancy District

Recommendations

- Implement nutrient controls & collaborate on salinity controls
- Maintain sufficient stream flows and lake levels (quantity and quality nexus)
- Adequately fund infrastructure and upgrade wastewater treatment plants and sewer systems
- Regulate water quality to protect GSL
- Address nonpoint sources
- Improve drinking water source protection plans
- Embrace holistic watershed planning

(5) In what ways
will weather and
a changing
climate impact
future water
supply and
demand?



Photo Credit: Don Green; Weber Basin Water Conservancy District



Photo Credit: Gary Crandall; Friends of Great Salt Lake

Recommendations

- Increase coordination among various government levels and climate researchers
- Assess vulnerabilities and develop risk management strategies
- Identify and develop adaptation and mitigation strategies
- Build on scientific knowledge base of climate research through increased resources and funding

(6) What is the role of policymakers, both elected and appointed, at all levels of government?

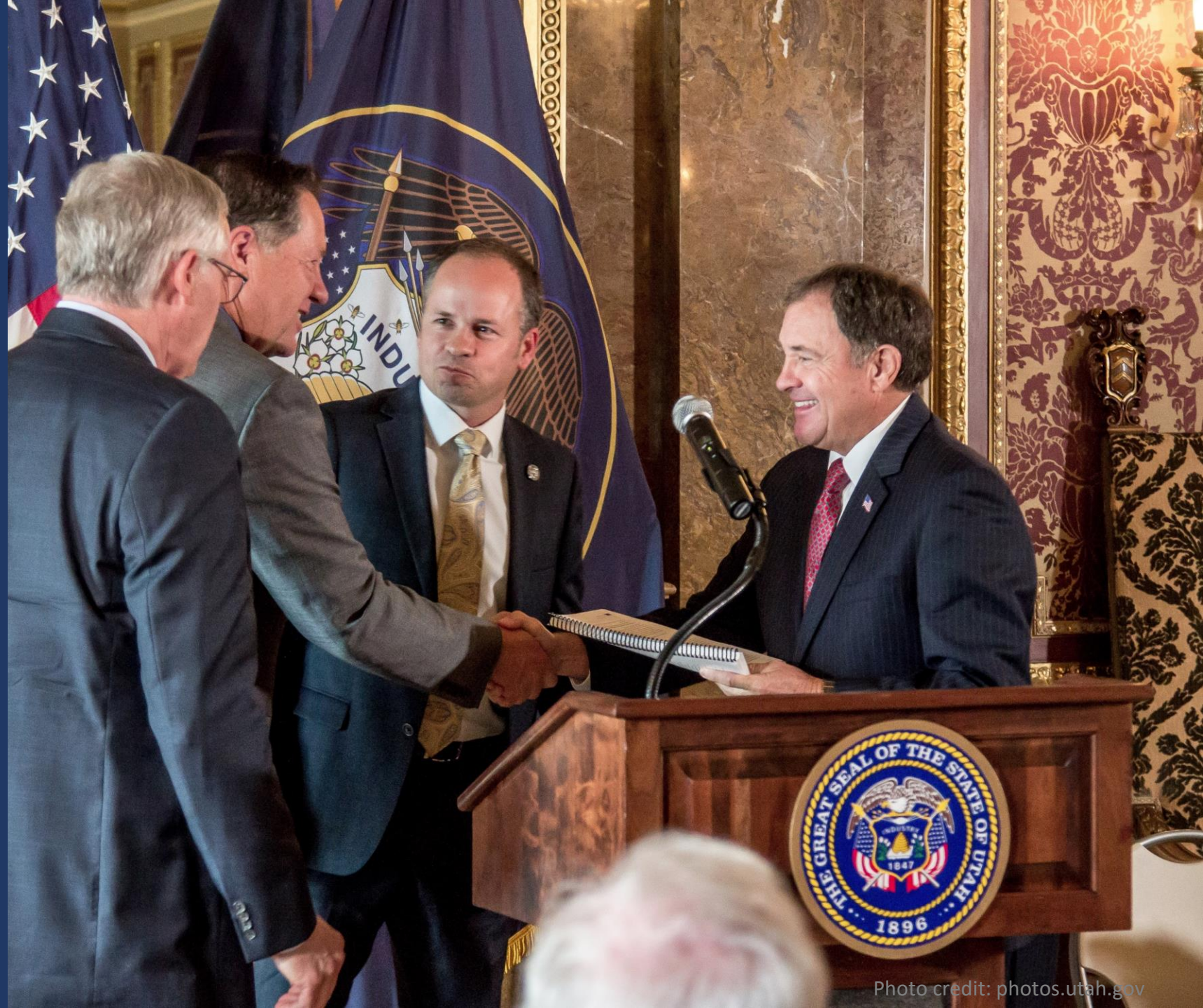




Photo Credit: Washington County Water Conservancy District

Recommendations

- Establish mechanisms to engage the public in decision-making processes
- Encourage cooperative decision making within and between DNR, DEQ, UDAF, and with states that share watersheds with Utah
- Accelerate funding for adjudication of water rights
- Provide adequate ongoing funding and staff to quantify and settle Federal Reserved Water Rights

(7) What roles will science, technology, and innovation play in addressing Utah's future water needs?

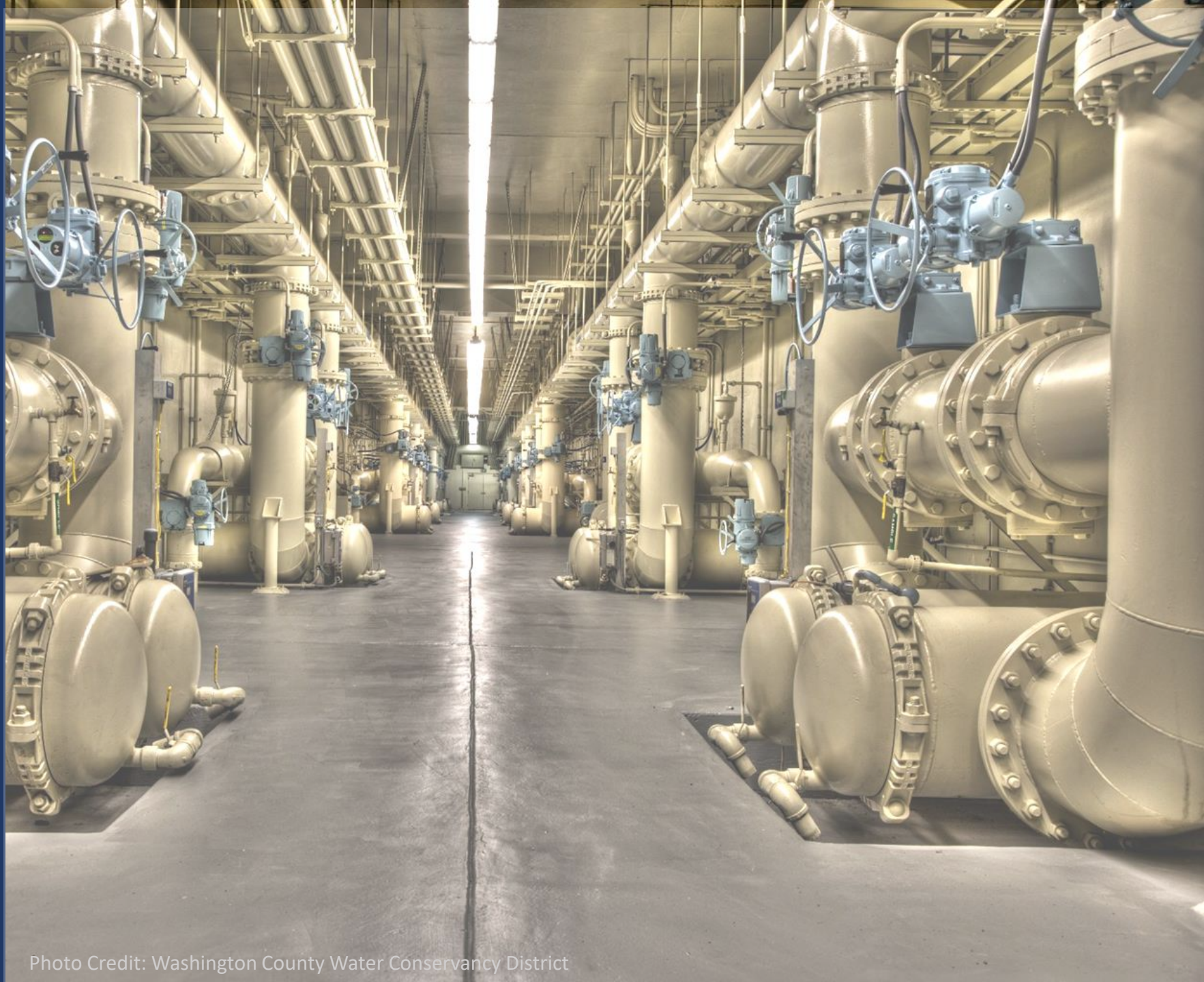
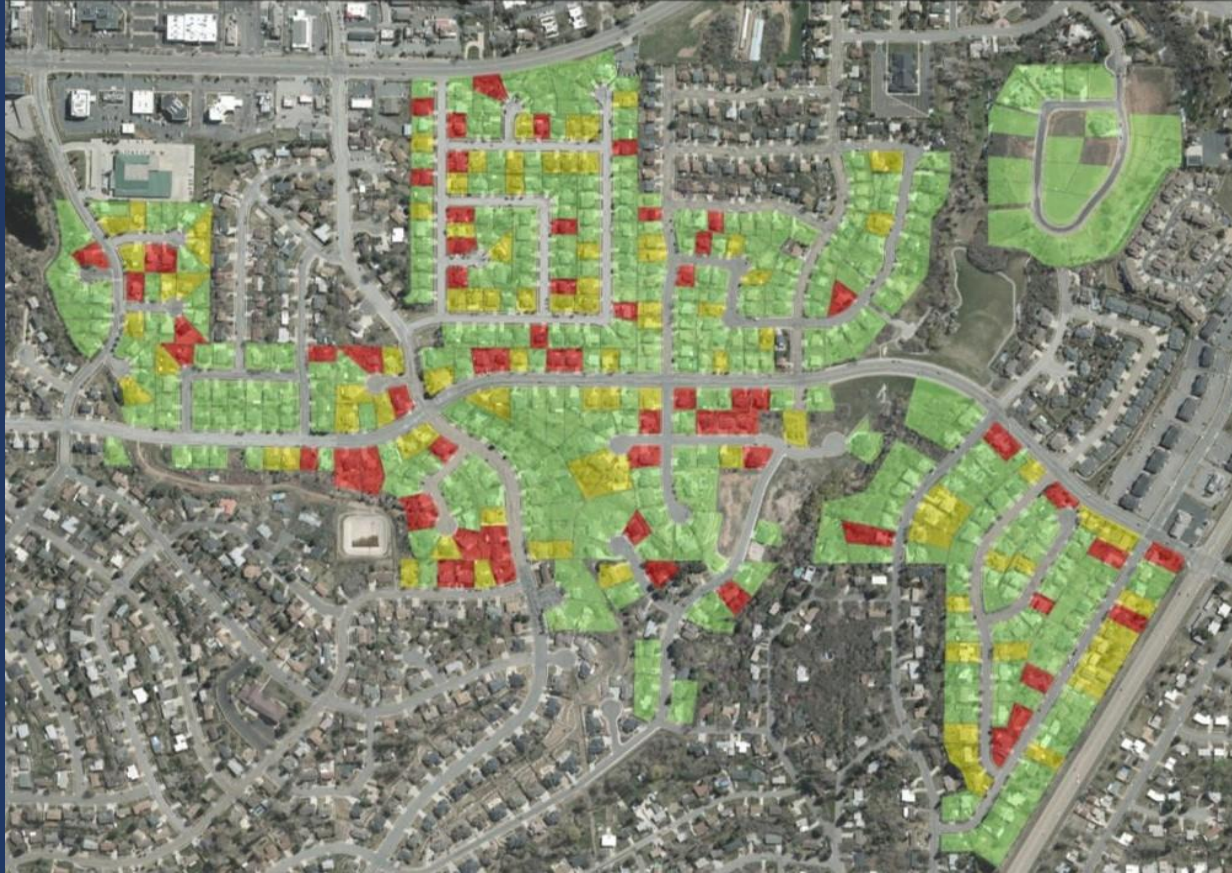


Photo Credit: Washington County Water Conservancy District



Recommendations

- Pilot test and demonstrate water treatment and ag technologies and processes
- Explore green infrastructure, greywater projects, wastewater, and reuse projects; minimize distribution losses
- Increase integrated water management
- Improve the quality of water data collected and reported
- Optimize water operations with automation

High tech sprinkler: ~30% savings (secondary systems); 2x the cost

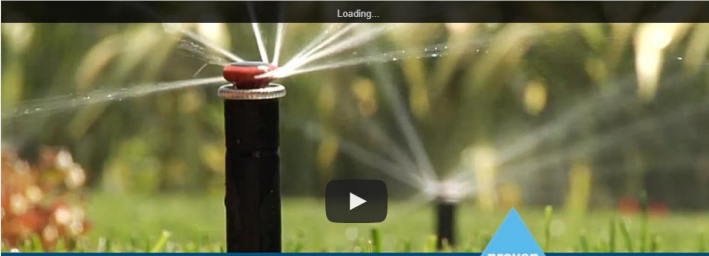
Mobile drip: 27-35% savings (agricultural systems); 1/10th the cost of fixed drip

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WATER SAVINGS

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MP ROTATOR® proven WATER SAVER

BUILT TO SAVE WATER



(8) What is the framework for Utah water law and policy, and how will stakeholders modernize it?





Photo Credit: Utah Farm Bureau Federation

Recommendations

- Give the State Engineer more direction on “public welfare”
- Expedite and fund water rights adjudications
- Facilitate temporary transfers of water
- Review constitutional requirements that preclude cities from selling surplus water
- Provide regular and robust forums for stakeholder involvement in modernizing Utah water law and policy

(9) How do we
optimize our
water resources
to sustain the
economy and
quality of life
for Utah
residents?



Photo Credit: David Maisel; Friends of Great Salt Lake



Photo Credit: R. Jefre Hicks; Friends of Great Salt Lake

Recommendations

- Increase coordination among various government levels and climate researchers
- Assess vulnerabilities and develop risk management strategies
- Identify and develop adaptation and mitigation strategies
- Build on scientific knowledge base of climate research through increased resources and funding

(10) How will Utah plan for, adequately fund, and use innovative solutions to maintain, replace, and redesign existing water infrastructure and build new water infrastructure over the next 40-50 years?



Recommendations

- Increase cyber and physical security
- Develop state water infrastructure financing plan
- Water providers should pursue creative funding opportunities
- Incorporate energy consumption and provision into planning and financing



Photo Credit: Jordan Valley Water Conservancy District

Infrastructure Costs - Issues

- Huge cost of maintaining current infrastructure.
- Whether and to what extent today's rate-payers should subsidize tomorrow's users.
- The challenge of long-time horizons for new supply. (May not be able to build it when it's needed.)
- The impulse of prior appropriation (e.g., Bear Lake storage).



(11) How will Utah provide water for agricultural lands and food production in the face of competing water demands?





Recommendations

- Have irrigation companies and state agencies work together
- Expand efforts to preserve Utah ag lands and water
- Establish basin-level councils to optimize regional water supplies
- Create mechanisms to help ag users contribute to water management
- Review/modify/expand USU Extension Water Initiative
- Support ag infrastructure and create clearinghouse for real-time data

What Does “Allow the Market to Work” Look Like?



- Japan currently imports approximately 60% of its food supply.
- How do we avoid that fate (can we avoid that fate)?



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July 2017



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July 2017



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Current Status/Looking Forward

- Governor's implementation team
- Ag optimization (research): how fund?
- Ag optimization (implementation): how fund?
- Ecosystem needs (e.g., GSL): how fund? (Cf. Owens Lake, Urmia, etc.)



